Arrowrock Dam Update

Outlet Works December 1999

Valve replacement effort remains on track

Background

On November 20, 1998, a scoping document describing Reclamation's proposed project to replace the outlet works at Arrowrock Dam was sent to a mailing list of over 100 individuals, organizations, agencies, and tribes. Within the document Reclamation discussed deficiencies in the outlet works and presented a proposal to replace the lower ten Ensign valves with clamshell gates.

The scoping document invited the public to provide input on issues and concerns associated with the project. Two public scoping meetings were held on December 14, 1998, to solicit additional comments.

Issues brought forward during the scoping process centered around the restricted water levels during the construction periods and the resulting effects on fish, wildlife, irrigation supplies, recreation, water quality, and cultural resources.

What we heard from you

On the Endangered Species Act (ESA):

In June 1998, bull trout were listed as a threatened species under the ESA. One of the most important issues we face with the proposed project is the impact to bull trout habitations in Arrowrock Reservoir. Concerns were expressed about entrainment through the dam, water quality, reservoir productivity, and stranding during drawdown.

Since little is known about bull trout life history and habitat requirements in the Boise River, Reclamation has assisted the Idaho Department of Fish and Game in studying bull trout in Arrowrock and Anderson Ranch Reservoirs. We are currently conducting research in the North Fork Boise River in cooperation with the U.S. Forest Service. Information from these studies will help us assess the project's impact on bull trout and help us develop alternatives and mitigation strategies to minimize the impact.

Adult bull trout trapped in the North Fork Boise River, Fall 1999.

On Irrigation Water Supply:

Concerns over potential loss of Arrowrock storage water and how that might affect water delivery contracts during construction were clearly heard. Reclamation worked to develop a model that will assist in analyzing and understanding potential project impacts.

This model exercise has given us a better understanding of the project's effects on the Boise River Reservoir System operations, refill probabilities, and winter flood probabilities.

Arrowrock Dam spillway release, June 1993.

Further, this model exercise will help us evaluate how the project may affect water users.

On Water Quality:

When Reclamation presented the alternatives last fall, indications were made that the possibility exists of using the sluice gates to pass inflows during construction. This resulted in several concerns about turbidity in both Lucky Peak Lake and the lower Boise River.

As a result, Reclamation conducted a study to evaluate and quantify what will happen with the sediment downstream from Arrowrock Dam when the slice gates are used. The report, titled "Arrowrock Reservoir Sediment Quantification and Transport Study (Oct 99)," will be an important component enabling Reclamation to quantify effects to water quality caused by the project.

On Construction Issues:

The bulk of Reclamation's efforts over the past year has been focused on evaluating possible construction alternatives to reduce the need to drawdown the reservoir. This would reduce or eliminate many of the environmental concerns.

We conducted a Value Engineering (VE) process in August 1999 which compared the proposed construction method to three construction options requiring less drawdown. At present, a feasible method of conducting the work without a drawdown does not look promising; however, we are continuing to evaluate potential alternatives.

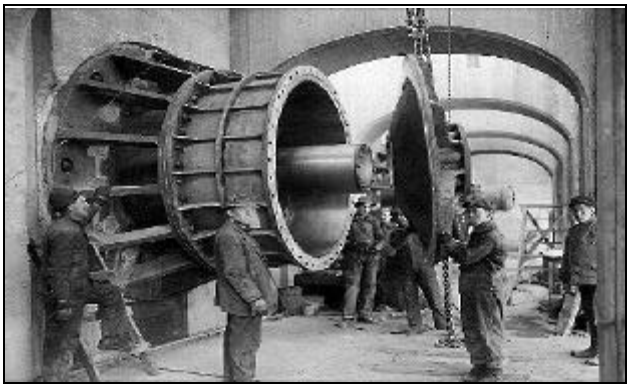
An in-depth discussion of the alternatives that were studied but not determined to be feasible will be provided in the EIS.

Year Summary

The following list summarizes Reclamation's accomplishments over the past year. This work has helped revise and refine the proposed alternative and it will provide valuable information to help quantify the impacts of this proposed project.

- Sediment Quantification and Transport Study Bull Trout Data Gathering and Research*
- VE Study
- Accountability Report
- Constructability Evaluation
- Hydraulic Model Development
- Draft Biological Assessment

** This information is available on Reclamation's web site:* ***www.pn.gov/reg/ida/arrowpix.html***



Work crews are seen here installing the original Ensign valves during construction in 1915.

Revised Proposed Alternative

The proposed alternative (after modifications) consists of replacing the ten lower ensign valves located on the upstream side of the dam with clamshell gates (seven 48-inch clamshell gates and three 66-inch clamshell gates) to be located on the downstream side of the dam.

Associated structures and features include a new control house and new gallery entrance for access to the clamshell gates, new steel conduit liners, and modified trash racks to accept a bulkhead gate for maintenance. After the completion of this work, the top row of Ensign valves and the sluice gates would be abandoned but left in place for historic reasons.

In this alternative, construction would require three years, with the construction window occurring from September 15 - March 1.

In years one and two, work would mostly consist of installing new valves on the downstream side of the dam. Lucky Peak Lake elevations would be between 3000 - 2962 feet, which is within the normal operating range; however, drawdown would occur earlier in the season than normal. Arrowrock Reservoir would be maintained above elevation 3110, which is higher than normal operations to allow water to bypass through the upper valves.

In the third year of construction, Arrowrock reservoir would be drawn down to 3027. In order to remove the old valves and perform other work on the upsream side of the dam, the current plan calls for using stoplogs to allow for a slightly higher pool in Arrowrock Reservoir during construction.

Arrowrock Reservoir, August, 1992.

Five valves will be replaced at a time leaving the other five valves available to pass flows if necessary.

The EIS will include information detailing the proposed alternative, the no action alternative, any other feasible alternatives that are developed, and alternatives considered but eliminated.

Draft BA Summary

As required by the Endangered Species Act, Reclamation is consulting with the U.S. Fish and Wildlife Service on impacts to bull trout and bald eagles, both considered Threatened species.

A draft biological assessment has been prepared and formal consultation with the U.S. Fish and Wildlife Service is expected to begin shortly. We expect that protection and mitigation of impacts and long-term conservation of these species will play a critical role in rehabilitation of Arrowrock Dam's outlet works.

Schedule/Timeline

Environmental Impact Statement

Draft completed	Sept. 2000
Public review	Sept. 2000 - Nov. 2000
Final EIS	Feb. 2001
30 day no action period	Mar. 2001
Record of Decision (ROD)	Mar. 2001

Design/construction

Data collection	Oct. 1999 - Jan. 2000
Design	Jan. 2000 - Nov. 2000
Issue	Mar. 2001
Award	July, 2001
Construction	July, 2001 - Mar. 2004

Dates Revised May 22, 2000

Additional Information

For more information about the Arrowrock Dam Outlet Works Rehabilitation Project, please contact:

Steve Dunn, Bureau of Reclamation, Snake River Area Office, 214 Broadway Avenue, Boise, ID 83702 or call (208) 334-9844.

Lesa Stark, Bureau of Reclamation, Regional Office, 1150 N. Curtis Road, Boise, ID 83706-1234, Suite 100 or call (208) 378-5209.

OR

visit our Arrowrock web page at

www.pn.usbr.gov/reg/ida/arrowpix.html

The Bureau of Reclamation would like to thank everyone who has taken time to express views and opinions on this project. For more information, please visit our Internet website.

1150 N. Curtis Rd. Ste. 100
Boise, ID 83706-1234